

DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



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Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 69.28**WELDING INSPECTION REPORT****Resident Engineer:**Pursell, Gary**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-010473**Date Inspected:** 04-Dec-2009**Project Name:** SAS Superstructure**OSM Arrival Time:** 1900**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 700**Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **Location:** Shanghai, China**CWI Name:** See Below**CWI Present:** Yes No**Inspected CWI report:** Yes No N/A**Rod Oven in Use:** Yes No N/A**Electrode to specification:** Yes No N/A**Weld Procedures Followed:** Yes No N/A**Qualified Welders:** Yes No N/A**Verified Joint Fit-up:** Yes No N/A**Approved Drawings:** Yes No N/A**Approved WPS:** Yes No N/A**Delayed / Cancelled:** Yes No N/A**Bridge No:** 34-0006**Component:** OBG and Tower**Summary of Items Observed:**

CWI Inspectors: Mr. Sha Zhi, Mr. You Qi Guo, Mr. Lv Li Qing

On this date CALTRANS OSM Quality Assurance (QA) Inspector, Mr. Paul Dawson, arrived on site at the Zhenhua Port Machinery Company (ZPMC) facility at Changxing Island, in Shanghai, China, for the purpose of monitoring welding and fabrication of the San Francisco / Oakland Bay Bridge (SFOBB) components. This QA Inspector observed the following:

Tower Bay 11

This QA Inspector observed ZPMC welder Mr. Li Haidong, stencil 047701 is using flux cored welding procedure WPS-B-T-4333-TC-P4-F to make north tower lift 4 weld ESTL4-3E/L-058. This QA Inspector observed a welding current of 305 amps and 31.1 volts. This QA Inspector observed that Mr. Yu Jun appears to be certified to make this weld. Items observed on this date appeared to generally comply with applicable contract documents

This QA Inspector observed ZPMC welder Mr. Huang Guo qi, stencil 059525 is using flux cored welding procedure WPS-B-T-4333-TC-P4-F to make north tower lift 4 weld ESTL4-3I/L-121. This QA Inspector observed a welding current of 308 amps and 32.0 volts. This QA Inspector observed that Mr. Huang Guo qi appears to be certified to make this weld. Items observed on this date appeared to generally comply with applicable contract documents.

This QA Inspector observed ZPMC welder stencil 049561 is using flux cored welding procedure

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WPS-B-T-4333-TC-P4-F to make north tower lift 4 weld ESTL4-3J/L-055. This QA Inspector observed a welding current of 305 amps and 31.7 volts. Items observed on this date appeared to generally comply with applicable contract documents.

OBG BAY 14

This QA Inspector observed ZPMC welder Ms. Li Jiao, stencil 049861 is using shielded metal arc welding procedure specification WPS-B-P-2211-B-U2-FCM to make tack welds between side plate SP3012A and SP3011-001. Prior to making the first tack weld this QA Inspector observed ZPMC CWI Mr. Lv Li Qing performing dimensional verifications of the spacing of the adjacent side plates. This QA Inspector observed a welding current of approximately 150 amps and Ms. Li Jiao appears to be certified to make this weld. This QA Inspector observed the shielded metal arc welding electrodes are being stored in an electrically heated electrode storage container which is hot to the touch and the base material was preheated with a torch prior to making the tack welds. Items observed on this date appeared to generally comply with applicable contract documents.

Segment 7CW – Outside Yard near Blast Shop #1

This QA Inspector observed ZPMC welder Mr. Zang Yanbo, stencil 045196 is using shielded metal arc welding procedure WPS-345-SMAW-4F-(4F)-FCM-Repair-1 to deposit shielded metal arc weld repair of OBG Lifting attachment at SSD14A-PP53 / 7CW . This QA Inspector observed a welding current of approximately 180 amps and the welding electrode storage container that is being used by Mr. Yanbo is connected to an electrical power supply and the container is warm to the touch. This QA Inspector observed that Mr. Zang Yanbo appears to be certified to make this weld. Items observed on this date appeared to generally comply with applicable contract documents.

This QA Inspector observed ZPMC welder Mr. Tian Zhaoquan, stencil 045246, has used shielded metal arc welding procedure WPS-345-SMAW-4F-(4F)-FCM-Repair-1 to deposit shielded metal arc weld repair of OBG Lifting attachment at SSD14A-PP52 / 7CW. This QA Inspector observed QC has recorded a welding current of 157 amps and the welding electrode storage container that is being used by Mr. Tian Zhaoquan is connected to an electrical power supply and the container is warm to the touch. Items observed on this date appeared to generally comply with applicable contract documents.

Blast Shop #4

ZPMC QC Paint Inspector informed this QA Inspector that at 2145 hours in blast shop #4 Caltrans QA Inspection personnel are requested to carry out visual inspections of surface preparation of the bottom plate in OBG lift 1E. This QA Inspector and Caltrans QA Inspector Mr. George Goulet performed random visual inspections of the exterior end of OBG Segment 1AAE for a distance of approximately 1 meter as measured from the bottom of the OBG in the center and on the south side and the interior bottom plate of 1AE and 1BE between panel points 8.5 and 11. ZPMC recently performed weld repairs of the segment splice welds and due to removal of the coatings in certain locations, ZPMC has utilized grit blast equipment to remove all the paint from the interior bottom plate in these locations and ZPMC intends to paint it a second time. This QA Inspector visually observed approximately five locations that require grinding to resolve visual shallow nicks and scrapes. ABF observed and marked one stiffener plate fillet weld that is missing the weld for a distance of approximately 75 mm near panel point 10.5

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approximately 400 mms from the butt weld joining segment 1AE and 1BE. ABF identified this area as needing to be welded. The areas were marked with colored chalk and ZPMC has a worker using a grinder to remove the areas that had been marked as being visually unacceptable. ZPMC has a magnetic particle (MT) inspector available to perform Magnetic Particle Testing (MT) inspections of the arc strike removal areas. ZPMC paint inspection personnel informed this QA Inspector that ZPMC is going to grit blast the interior surfaces a second time. See the photographs below showing the missing fillet weld.



Summary of Conversations:

See Above.

Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Eric Tsang phone: 150-0042-2372 , who represents the Office of Structural Materials for your project.

Inspected By:	Dawson,Paul	Quality Assurance Inspector
Reviewed By:	Carreon,Albert	QA Reviewer
